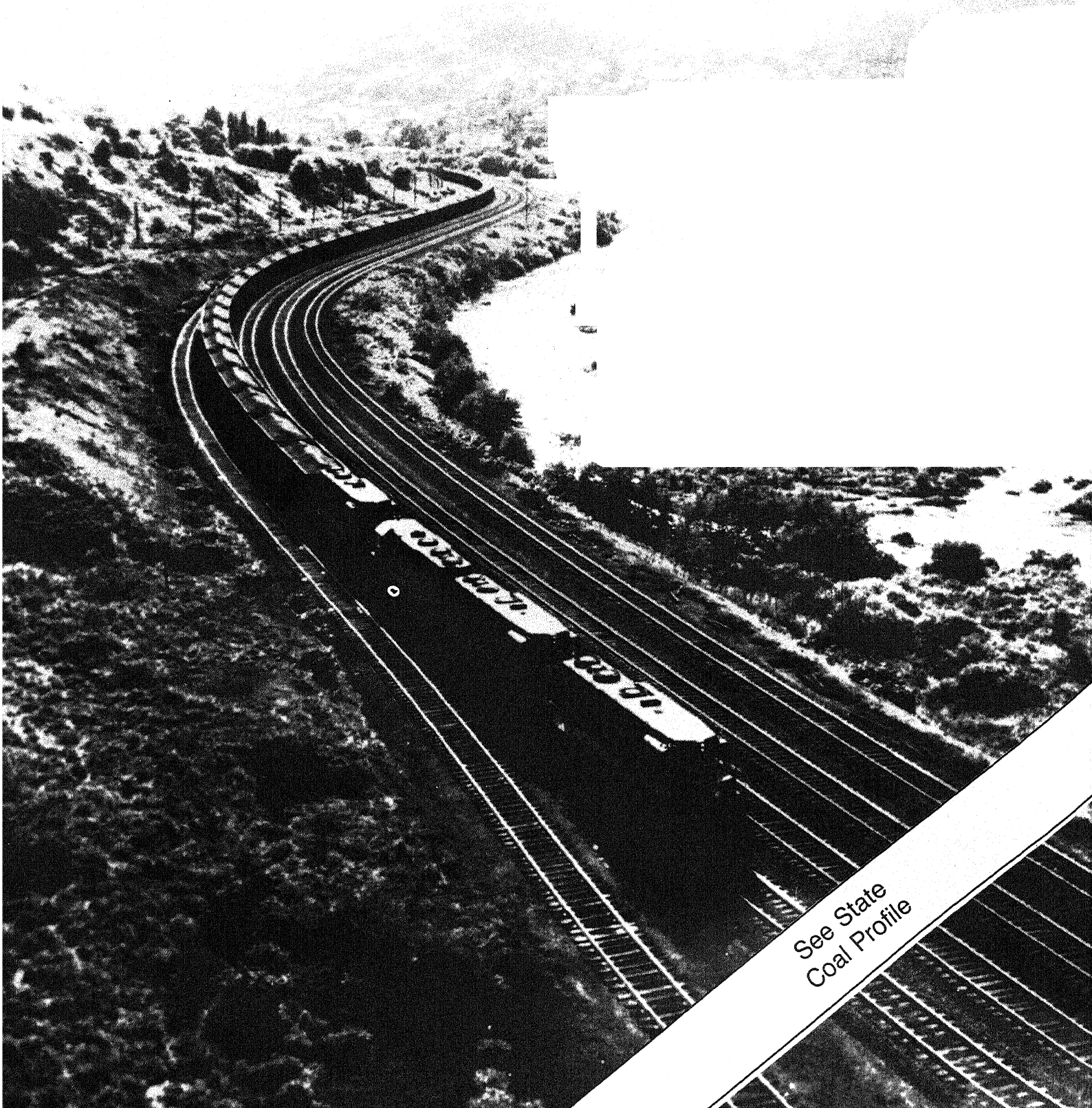


Weekly Coal Production

Production for Week Ended:
April 20, 1991



See State
Coal Profile

Preface

The *Weekly Coal Production (WCP)* provides weekly estimates of U.S. coal production by State. Supplementary data are usually published monthly in two supplements: the Coal Exports and Imports Supplement and the Domestic Market Supplement. The Coal Exports and Imports Supplement contains detailed monthly data on U.S. coal and coke exports and imports. The Domestic Market Supplement contains detailed monthly electric utility coal statistics, by Census Division and State, for generation, consumption, stocks, receipts, sulfur content, prices, and the origin and destination of coal shipments. This supplement also contains summary-level, monthly data for all coal-consuming sectors on a quarterly basis.

Preliminary coal production data are published quarterly, based on production data collected using Form EIA-6, "Coal Distribution Report." Based on 1988 and 1989 data, the coal production estimation error for a quarter at the national level (i.e., the difference between the sum of the weekly estimates for a quarter and the quarterly EIA-6 preliminary data) ranges from 1 percent to 4 percent for 1988 and 1 percent to 2 percent for 1989.

Final coal production data are published annually, based on the EIA-7A coal production survey. Based

on 1988 and 1989 data, the revision error for a quarter at the national level (i.e., the difference between the EIA-6 preliminary data and the EIA-7A final data) ranges from 0.02 percent to 0.08 percent for 1988 and 0.09 percent to 0.14 percent for 1989.

This publication is prepared by the Coal Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA) to fulfill its data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (P.L. 93-275) as amended. *Weekly Coal Production* is intended for use by industry, press, State and local governments, and consumers. Other publications that may be of interest are the quarterly *Coal Distribution*, the *Quarterly Coal Report*, *Coal Production 1989*, and *Coal Data: A Reference*.

This publication was prepared by Wayne M. Watson and Michelle D. Bowles under the direction of Mary K. Paull and Noel C. Balthasar, Chief, Data Systems Branch. Specific information about the *State Coal Profile: Oklahoma* may be obtained from Michelle D. Bowles 202/254-5378. Questions on energy statistics should be directed to the National Energy Information Center (NEIC) at 202/586-8800.

Photo Credit:

Samuel A. Friedman, Oklahoma
Geological Survey
State Coal Profile

Distribution Category UC-98

Released for printing April 26, 1991

Summary

U.S. coal production in the week ended April 20, 1991, as estimated by the Energy Information Administration, totaled 18 million short tons. In this week, which included a one-day nationwide railroad strike, coal production was 8 percent lower than in

the previous week, and 12 percent lower than in the comparable week in 1990. Production east of the Mississippi River totaled 10 million short tons, and production west of the Mississippi River totaled 7 million short tons.

Figure 1. Coal Production

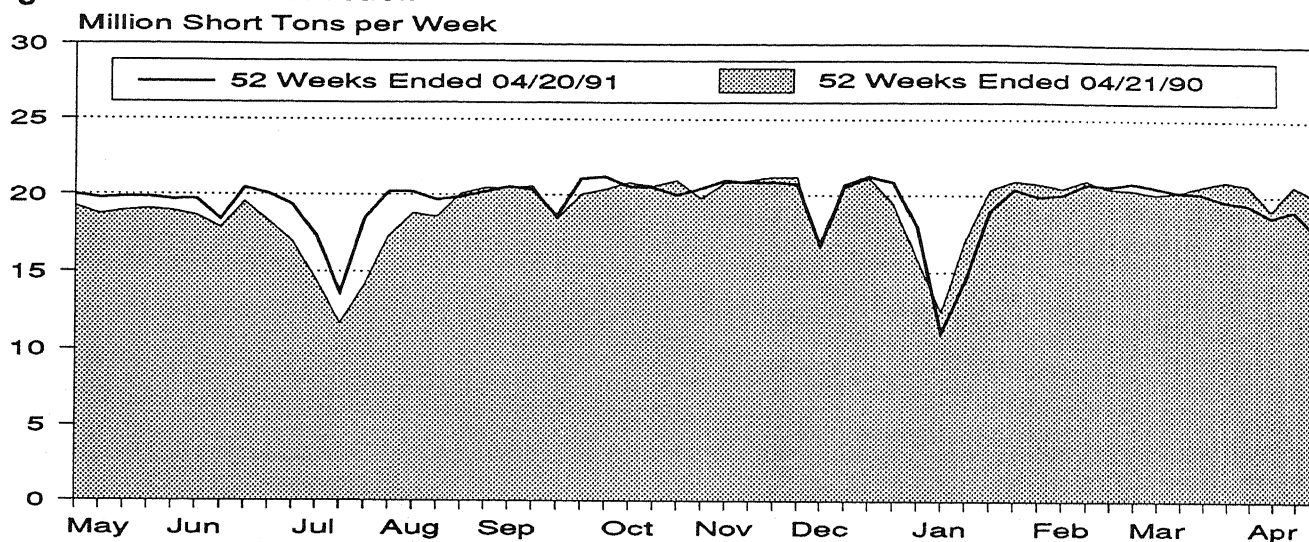


Table 1. Coal Production

	Week Ended			52 Weeks Ended		
Production and Carloadings	04/20/91	04/13/91	04/21/90	04/20/91	04/21/90	Percent Change
Production (Thousand Short Tons)						
Bituminous Coal ¹ and Lignite . . .	17,518	19,051	19,908	1,011,039	995,623	1.5
Pennsylvania Anthracite	50	49	58	2,884	3,124	-7.7
U.S. Total	17,567	19,100	19,966	1,013,923	998,746	1.5
Railroad Cars Loaded	111,446	121,337	131,672	6,581,203	6,471,587	

¹Includes subbituminous coal.

Notes: All data are preliminary. Totals may not equal sum of components because of independent rounding.

Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report"; Form EIA-7A, "Coal Production Report"; and State mining agency coal production reports.

Table 2. Coal Production by State
(Thousand Short Tons)

Region and State	Week Ended		
	04/20/91	04/13/91	04/21/90
Bituminous Coal¹ and Lignite			
East of the Mississippi	10,032	11,402	12,489
Alabama	464	519	616
Illinois	1,013	1,193	1,194
Indiana	721	756	758
Kentucky	2,617	2,901	3,436
Kentucky, Eastern	1,965	2,249	2,598
Kentucky, Western	652	652	838
Maryland	48	54	67
Ohio	577	639	639
Pennsylvania Bituminous	1,196	1,342	1,359
Tennessee	107	128	137
Virginia	667	796	1,030
West Virginia	2,622	3,074	3,254
West of the Mississippi	7,486	7,648	7,420
Alaska	22	24	24
Arizona	186	202	156
Arkansas	*	*	*
Colorado	394	444	325
Iowa	6	7	7
Kansas	15	16	15
Louisiana	41	45	87
Missouri	43	46	50
Montana	663	702	750
New Mexico	347	317	510
North Dakota	546	578	556
Oklahoma	26	30	40
Texas	986	1,072	1,060
Utah	432	495	391
Washington	83	90	99
Wyoming	3,697	3,579	3,351
Bituminous Coal¹ and Lignite Total .	17,518	19,051	19,908
Pennsylvania Anthracite	50	49	58
U.S. Total	17,567	19,100	19,966

¹Includes subbituminous coal.

*Less than 0.5 thousand short tons.

Notes: All data are preliminary. Totals may not equal sum of components because of independent rounding.

Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report"; Form EIA-7A, "Coal Production Report"; and State mining agency coal production reports.

State Coal Profile: Oklahoma

Total Area of State:

69,919 square miles

Area Underlain by Coal:

14,550 square miles

Demonstrated Reserve Base of Coal: (January 1, 1990)

2 billion short tons
(<1 percent of U.S. total)

First Year of Documented Coal Production:

1873 (50,000 short tons)

Peak Year of Coal Production:

1978 (6 million short tons)

1989 Coal Production:

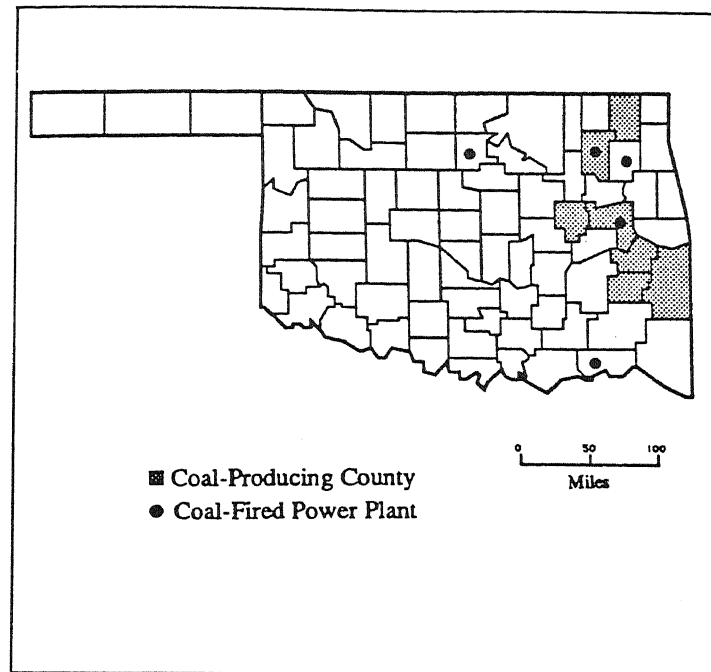
2 million short tons
(<1 percent of U.S. total)

1989 f.o.b. Mine Price:

\$28.46 per short ton
(U.S. average = \$21.82)

1989 Coal Consumption:

15 million short tons
(2 percent of U.S. total)



	<u>Number</u>	<u>Percentage of U.S. Total</u>
Number of Mines (1989)	21	<1
Underground	1	<1
Surface	20	1
Number of Miners (1989) (at mines producing more than 10,000 short tons)	414	<1
Underground	36	1
Surface	378	<1
Average Quality of Utility Coal Receipts (1989)	<u>Oklahoma</u>	<u>U.S. Average</u>
Heat Content (million Btu per short ton)	17.7	20.9
Sulfur Content (percent by weight)5	1.3
Ash Content (percent by weight)	5.4	9.9

In 1989, coal production in Oklahoma totaled 2 million short tons, including a small amount from Federal leases. Oklahoma ranked 22nd among the 27 coal-producing States. Overshadowed by the output of oil and gas, coal accounted for about 1 percent of the total value of minerals produced in Oklahoma in 1989.

Bituminous coal is the only rank of coal presently mined in Oklahoma. The major area containing coal of economic importance is in the eastern part of the State, which is part of the Western Interior Coal Basin. The coal-bearing rocks, which underlie about one-fifth of the State, extend northward into Kansas and eastward into Arkansas.

About 20 coalbeds are present in the State, but only 7 were mined in 1989. Of these, the Croweburg bed was the leading source of coal, accounting for 30 percent of the State's total production. As mined, the heat content of all coal produced averaged about 26 million Btu per short ton. The average sulfur content was 2 percent by weight, and the ash content was 10 percent. The beds mined ranged from 1 to 3 feet in thickness.

Coal was first reportedly used in Oklahoma in the early 1800's by local Indians, who dug it by hand and sold it by the basket. Coal mining began on a commercial scale in 1872 with the construction of the Missouri-Kansas-Texas Railroad. From the beginning of the 1900's through World War I, coal was a major fuel in Oklahoma and a major ingredient in steel production in other States. In the early 1900's, beehive coke was produced in the State, but by 1908 the coke industry was virtually extinct. In 1920, coal production reached 5 million short tons, but then later trended downward to about 1 million short tons during the Depression. The onset of World War II stimulated the demand for coal and other fuels, and coal production reached 3 million short tons by 1946.

Following the war, coal production declined because of competition from natural gas and because diesel-fueled engines replaced coal-burning locomotives. The average annual production was about 2 million short tons from 1952 until 1974.

As a result of the Arab oil embargo in 1973, the demand for coal increased. Production rose to a record high of 6 million short tons in 1978. However, by 1989 coal production declined again to 2 million short tons, reflecting a lower demand for high-sulfur coal.

Of the 77 counties in the State, only 7 produced coal in 1989. Craig County was the major source of production, accounting for 38 percent of the total. Since World War II, surface mines have become an increasingly important source of production. In 1989, surface mines accounted for almost all of

Oklahoma's coal production. The only underground mine active in Oklahoma in 1989 began operations in September of that year, following a 2-year period when no coal was produced by underground methods. Miner productivity at surface mines averaged 2.2 short tons per hour, which was about twice the average for the underground mine.

With the construction of coal-fired electric generating plants beginning in the late 1970's in Oklahoma, coal consumption rose sharply from less than 1 million short tons in 1977 to 6 million short tons in 1980 and to 15 million short tons by 1989. The five coal-fired power plants in the State had a net summer capability of 4,828 megawatts (MW), and accounted for more than half of the total electricity generated in the State with 24,122 billion kilowatthours. The Muskogee plant, located in Muskogee County and operated by Oklahoma Gas and Electric Company, is the largest power plant in the State with three units totaling 1,515 megawatts.

Of the 15 million short tons of coal consumed in Oklahoma in 1989, about 14 million short tons came from Wyoming and the balance was from Oklahoma. Electric power plants accounted for 96 percent of the total coal consumed. In 1977, Oklahoma enacted a State law which requires all coal-fired utilities to blend at least 10 percent Oklahoma coal with coal from other sources. This law is an attempt to maintain and ensure the viability of the coal industry in the State. However, the law exempts utilities from having to comply if the price of Oklahoma coal, in terms of Btu, is 5 percent higher than the price of coal from other sources.

In January 1991, Applied Energy Services, Incorporated, began operating the 300-MW Shady Point fluidized-bed combustion cogeneration facility. The plant was designed to burn high-sulfur bituminous coal found in Oklahoma without blending it with other low-sulfur coal. In addition to generating electricity, the plant will also supply steam to an adjacent chemical plant. Small amounts of coal were also consumed in other industries such as cement, lime, and paper manufacturing.

Annual coal production in Oklahoma in the next few years is not expected to vary significantly from the 2 million short tons averaged in recent years. Although Oklahoma has abundant coal reserves, most of the coal is not economical to mine because of the high-sulfur and high-ash content. However, with the advancement of Clean Coal Technology, more of Oklahoma's coal could be utilized as an environmentally safe fuel. A potential use of Oklahoma's coal would be in underground gasification, a process in which air is injected into the coalbed and the bed is ignited. The gas produced would be collected at the surface and utilized as a fuel for domestic heating, electricity generation, feedstock, and conversion to high-Btu

gas. Another potential energy source being evaluated is coalbed methane. Since Congress extended the tax credit for coalbed methane production until 1992, there is an incentive to produce the gas. Coalbed methane has been found in the Cherokee Basin, located in the Western Interior Coal Province which extends into northeastern Oklahoma.

References:

Energy Information Administration, *Coal Production* (various issues); *Quarterly Coal Report* (various issues); *Coal Distribution January-December 1989* (April 1990); *Cost and Quality of Fuels for Electric Utility Plants 1989* (July 1990); *Inventory of Power Plants in the United States 1989* (August 1990); *Electric Power Annual* (various issues); *Electric Power Monthly, December 1989* (March 1990). U.S. Department of the

Interior: Minerals Management Service, *Mineral Revenues 1989: Report on Receipts from Federal and Indian Leases*; Bureau of Mines, *State Mineral Summaries 1990*; *Keystone Coal Industry Manual 1989* (Maclean Hunter Publishing Company); Oklahoma Geological Survey "Oklahoma Coal Seams and Fields"; Samuel A. Friedman, Oklahoma Geological Survey, personal communications (1991); "Oklahoma Geology Notes," Vol. 49, No. 6 (December 1989) Vol. 49, No. 4 (August 1989); Investigation of the Coal Reserves in the Ozarks Section of Oklahoma and Their Potential Uses, Final Report to the Ozarks Regional Commission (July 1974). Public Service Company of Oklahoma, News release (February 1990); The American Association of Petroleum Geologists Bulletin Vol. 74, No. 10B (October 1990), "Development in Coal in 1989;" Methane From Coal Seams Technology (February 1991). Oklahoma Energy Strategy, December 1990 Release: *Focus on Electric Power, Coal, the Environment, and New Technology*; Department of Mines, Oklahoma Mining Commission, *State of Oklahoma 1989*.



This dragline at the Red Oak Mine, operated by Farrell-Cooper Mining Company in Latimer County, Oklahoma, has a 25-cubic yard bucket capacity that is used to remove 50 feet of overburden from the coalbed.

EIA Coal Data and Coal Models on Tape and Electronic Access

Coal Data Tapes

The **Coal Distribution** data tapes contain annual data on coal shipments by origin, destination, consumer sector and mode of transportation as well as on coal production and producer/distributor stocks, beginning with 1980. Additional information is available from Steve Scott, (202) 254-5467.

The **Coal Production** data tapes contain annual data on production, average mine price, reserves, employment and productivity, beginning with 1979. Additional information is available from John G. Colligan, (202) 254-5465.

The **Quarterly Coal Report** data tape contains quarterly data on production, exports, imports, consumption, receipts, delivered prices and stocks, beginning with 1980. Additional information is available from Paulette Young, (202) 254-5481.

Coal Data By Electronic Access

Public access to coal data is available electronically by dialing (202) 586-8658. Communications are asynchronous at 300 or 1200 baud line speeds and require a standard ASCII-type terminal. (This service is free of charge).

Weekly Coal Production: This file contains current weekly coal production data. Additional information is available from Mary K. Paull, (202) 254-5379.

Quarterly Coal Report: This file contains comprehensive data on U.S. coal production, exports, imports, receipts, consumption and stocks. Additional information is available from T.C. Swann, (202) 254-5407.

Coal Model Tapes

The **Coal Supply and Transportation Model (CSTM)** is used to forecast coal production levels and coal transportation flows. The CSTM has been used to develop projections which appear in *Outlook for U.S. Coal Imports* and the *Annual Outlook for U.S. Coal* and served as the basis for an EIA report on rail deregulation and an EIA report on coal slurry pipelines.

CSTM projections will appear in the *Annual Energy Outlook 1991*, and were used in support of the National Coal Model (NCM) to provide analysis of the Clean Air Act Amendments of 1990. It also provides forecasts for several other EIA coal and multi-fuel reports. Additional information is available from Rich Newcombe, (202) 254-5370.

The **International Coal Trade Model (ICTM)** projects coal trade flows and represents all the major coal-exporting and coal-importing countries, as well as those with the potential to become major coal exporters. The ICTM is used to develop coal trade forecasts presented each year in *Annual Prospects for World Coal Trade*. In addition, ICTM projections served as the foundation for two recent service reports, *The Impact of Eliminating Coal Subsidies in Western Europe* and *Lower U.S. Mining Costs: Impact on World Coal Trade Projections*. Additional information is available from Fred Mayes, (202) 254-5409.

The **National Coal Model (NCM)** provides detailed projections of coal supply, transportation, and electric utility consumption. The NCM is primarily used to assess the consequences of proposed clean air legislation on the coal and electric utility industries, as in its use during 1990 to analyze impacts of the Clean Air Act Amendments of 1990. Additional information is available from Rich Newcombe, (202) 254-5370.

The **Resource Allocation and Mine Costing Model (RAMC)** uses estimates of coal reserves and cost estimates for new mine development to construct long-term supply curves relating coal prices and production for specific types of coal, supply regions, and mining methods. These supply curves are used in the CSTM, ICTM, and NCM. Additional information is available from B.D. Hong, (202) 254-5365.

The **Short-term Coal Analysis System (SCOAL)** is a series of equations used to project quarterly coal production trends by State. SCOAL projections appear in the *Short-term Energy Outlook*, EIA's quarterly summary of energy demand and supply projections, and the *Quarterly Coal Report*. Additional information is available from Fred Freme, (202) 254-5367.

The **PC-Coal Model** projects coal production, coal mine-mouth prices, and delivered coal prices for seven supply regions. This simplified model is available on diskette. Additional information is available from B.D. Hong, (202) 254-5365.

NOTE: To order coal model tapes or data tapes, or to learn more about them, contact the National Energy Information Center at (202) 586-8800.

NOT FOR SALE

BECAUSE IT'S FREE!

Every year the Government publishes thousands of books. And every year the U.S. Government Printing Office sells these books to the public. Now there's a book that tells you about the Government's new and popular publications—but it's not for sale . . . it's *free!*

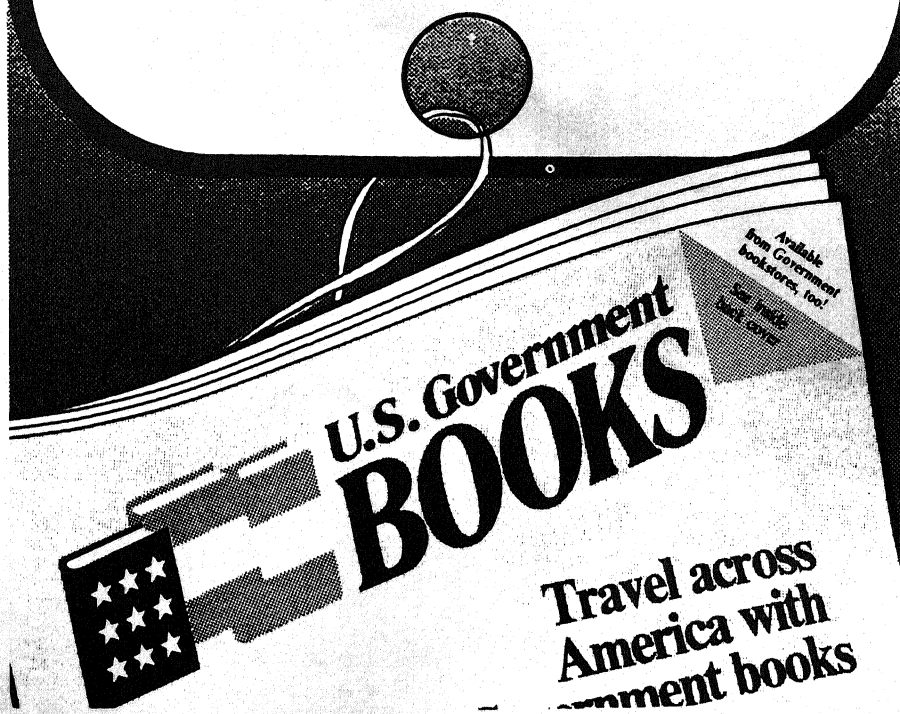
It's our catalog of books—hundreds of books from virtually every Government agency. The subjects range from agriculture, business, children, and diet to science, space, transportation, and vacations. And there are titles on military history, education, hobbies, physical fitness, gardening, and much, much more! There's also a special section for recently published books.

Find out about the Government's new and popular books by sending today for a copy of the book we *don't* sell. Write—

Free Catalog

P.O. Box 37000

Washington, DC 20013-7000



THE
ALL
BOOKS

This publication is available from the Superintendent of Documents, U.S. Government Printing Office (GPO). Information about purchasing this or other Energy Information Administration (EIA) publications may be obtained from the GPO or the EIA's National Energy Information Center (NEIC). Questions on energy statistics should be directed to the NEIC by mail, telephone or telecommunications device for the deaf (TDD). Addresses, telephone numbers, and hours appear below.

National Energy Information Center, EI-231
Energy Information Administration
Forrestal Building, Room 1F-048
Washington, DC 20585
(202) 586-8800
Telecommunications Device for the
Deaf only: (202) 586-1181
Hours: 8 a.m. - 5 p.m., M-F, Eastern Time

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
(202) 783-3238

This report was prepared by the Energy Information Administration, the independent statistical and analytical agency within the Department of Energy. The information contained herein should not be construed as advocating or reflecting any policy of the Department of Energy or any other organization.
